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FILE COPY

December 6, 2005

Mr. Mark Verhey
Certified Engineering Geologist
Humboldt County Division of Environmental Health
100 H Street, Suite 100
Eureka, CA 95501

Re: **Groundwater Monitoring Report - Third Quarter 2005**
Seymour Residence
1111 Riverside Drive
Rio Dell, CA
LOP # 12032
Project # AE001H

Dear Mr. Verhey,

On behalf of Jean and Everett Seymour, Clearwater Group (Clearwater) has prepared this *Third Quarter 2005 Groundwater Monitoring Report*. It presents background information, monitoring activities and monitoring results, conclusions, recommendations, and the planned activities for the referenced property (see **Figure 1** for a vicinity map).

Background

The subject site was improved with one 550-gallon capacity gasoline underground storage tank (UST). The tank location is shown in **Figure 2**. The tank was operated until 1987 when permitting began for in-place closure of the UST. In February 1988, the tank was abandoned in-place in accordance with the requirements of the Humboldt County Division of Environmental Health (HCDEH). According to HCDEH files, one soil sample was collected from an unspecified location by Beacom Construction of Fortuna, CA under HCDEH supervision in the vicinity of the UST at that time. Soil analytical results indicated that a release of petroleum hydrocarbons had occurred.

In February 1989, three additional soil samples (B-1, B-2, B-3, **Figure 2**) were collected by Beacom Construction from the south end of the (closed in place) tank. The depth and specific

locations of each of the three borings is unknown. However, patches in the concrete drive suggest the locations of these three former boring locations. Laboratory analytical results indicate that two of the three soil samples (B-2 and B-3) contained detectable concentrations of gasoline-range hydrocarbons.

In June 1999, the HCDEH collected groundwater samples from two borings (B-1 and B-2, **Figure 2**) from the vicinity of the closed UST. Each boring was advanced using a hand auger to a depth of approximately 7 to 8 feet below ground surface (bgs). The HCDEH also collected one groundwater sample from an on-site irrigation well (no longer used). Of the three samples collected by the HCDEH, only the groundwater sample collected from boring B-1 contained detectable concentrations of petroleum hydrocarbons. In a letter dated May 30, 2000, the HCDEH requested that a hydrogeologic investigation be performed. Clearwater subsequently prepared and submitted a *Workplan for Subsurface Investigation* dated July 19, 2000 to the HCDEH.

On December 8, 2000, Clearwater advanced five soil borings near the abandoned UST to define the extent of petroleum hydrocarbon contamination at the subject property. The borings were advanced by hand Geoprobe™ equipment to depths ranging from 8 to 10 feet bgs. The soil borings were located north, northwest, west, and south of the former UST (**Figure 2**). Data collected during this investigation are presented in Clearwater's *Subsurface Investigation Report* dated March 23, 2001.

In a letter dated May 15, 2001, the HCDEH requested a two-phase Corrective Action Plan be prepared to implement Clearwater recommendations contained in an *Initial Subsurface Investigation Report*, dated January 25, 2001, which included installation of groundwater monitoring wells and possible excavation of the abandoned UST. Clearwater subsequently prepared and submitted a *Corrective Action Phase 1 / Subsurface Investigation and Remediation Workplan,* dated June 14, 2001 per HCDEH's request.

On March 7, 2002, Clearwater supervised the installation of four monitoring wells (MW-1, MW-2, MW-3 and MW-4, **Figure 2**) and initiated a quarterly groundwater-monitoring program. Results of monitoring well installation and the first quarterly groundwater monitoring were presented in Clearwater's *Monitoring Well Installation and First Quarter 2002 Groundwater*

Monitoring Report dated April 3, 2002. Well construction data of these wells is presented in **Table 1**. Quarterly sampling has occurred from that event to the present day.

In June 2004, Clearwater Group produced a *Remediation Workplan Addendum* recommending the application of a bioremediation system to reduce the dissolved phase hydrocarbon contamination around MW-1. The proposed method was an In-situ Oxygen Curtain (iSOC) system.

The workplan was accepted by the HCDEH and in August 2004, Clearwater Group conducted a baseline microbiological study at the property. Various biological and geo-chemical parameters were tested and analyzed. The results indicated that the core of the hydrocarbon plume or "hot spot" had become anaerobic over time, either from slow biodegradation of petroleum hydrocarbons or the biodegradation of other organic material, which are present in the aquifer. Microbial analyses indicated that hydrocarbon-degrading microbes were present in both MW-1 and MW-2. Chemical concentrations of the petroleum hydrocarbons were within the range for effective enhanced bioremediation. One iSOC unit was recommended to be installed in MW-1.

The HCDEH concurred with the Clearwater findings and approved the iSOC installation in MW-1. On October 6, 2004 one iSOC unit was installed in MW-1. The iSOC system was monitored at 2, 4 and 8-week (post installation) intervals and then on a monthly basis.

On March 1, 2005, Clearwater received a letter from the HCDEH requesting further investigations to delineate and monitor possible down-gradient contamination. Clearwater responded to that letter recommending assessing performance of the iSOC system (i.e. wait to see the results of the third quarter groundwater-monitoring event) prior to changing course and conducting further investigations. The HCDEH concurred with these comments and recommendations.

In April 2005, Clearwater conducted a semi-annual geo-chemical study to monitor and evaluate the performance of the iSOC system. The study concluded that the iSOC system was operating correctly and that aerobic bioremediation was occurring at the site. The report was submitted to the HCDEH on June 16, 2005.

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Groundwater Monitoring Activities

The third quarter 2005 groundwater monitoring event was conducted on October 6, 2005. Monitoring wells MW-1 through MW-4 were gauged, purged, and subsequently sampled. Clearwater used an electronic water level indicator, accurate to within ±0.01 foot, to gauge depth to water. The wells were checked for the presence of separate-phase hydrocarbons (SPH) prior to purging. No measurable thickness of SPH was observed in any of the wells.

In preparation for sampling, the wells were purged of groundwater until water quality parameters (temperature, pH, and conductivity) stabilized. Purging devices were cleaned between use by an Alconox® wash followed by double rinse in clean potable water to prevent cross-contamination. Rinseate and purge water is transported on the sampling vehicle with an interior tank and pumped into labeled drums at the Clearwater yard. All purge water is disposed under manifest at Instrat of Rio Vista, CA. Following recovery of water levels to at least 80% of their static levels, Clearwater collected groundwater samples from the wells using disposable polyethylene bailers and poured from the bailers into HCl preserved laboratory-supplied VOA's. Sample containers were labeled, documented on a chain-of-custody form, and placed on ice in a cooler for transport to the project laboratory. Groundwater samples collected from MW-1 were analyzed for concentrations of total petroleum hydrocarbons as gasoline (TPH-g), benzene, toluene, ethylbenzene and xylenes (BTEX), methyl tertiary butyl ether (MTBE), di-isopropyl ether (DIPE), tertiary amyl methyl ether (TAME), ethyl tertiary butyl ether (ETBE) and tertiary butyl alcohol (TBA) using U.S. Environmental Protection Agency (EPA) Method 8260B. Groundwater samples collected from MW-2 through MW-4 were only analyzed for concentrations of TPH-g and BTEX by EPA Method 8260B. Laboratory work was conducted by Kiff Analytical, a Department of Health Services (DHS)-certified laboratory, located in Davis, California. The monitoring activities during this quarter are summarized below:

Wells gauged:	MW-1, MW-2, MW-3 and MW-4
Wells sampled:	MW-1, MW-2, MW-3, and MW-4
Field Analysis:	DO, ORP, Total and Ferrous Irons (MW-1 through MW-4)
Laboratory analyses:	TPH-g, BTEX, MTBE, DIPE, TAME, ETBE, TBA (for MW-1 by EPA Method 8260B); TPH-g and BTEX (for MW-2, MW-3, and MW-4 by EPA Method 8260B)

Field activities described above were conducted in accordance with Clearwater's Groundwater Monitoring and Sampling Field Procedures (**attached**). Groundwater gauging and well purging information are presented on Gauging/Purging Calculations and Data sheets (**attached**).

Groundwater Monitoring Results

Results of the third quarter 2005 monitoring are summarized below:

Depth to water:	Ranged from 5.51 (110.91 ft above msl) (MW-1) to 8.03 (108.72 ft above msl) (MW-4) feet below top of well casing (also shown in **Table 2**)
Flow direction/gradient:	Northerly direction with a horizontal hydraulic gradient of 0.055 ft/ft (**Figure 3**)
Floating product:	None
TPH-g concentration:	MW-1 through MW-4, <50 µg/L
Benzene concentration:	MW-1 through MW-4, <0.50 µg/L
MTBE Concentration:	<0.50 µg/L (MW-1)

Based on historical data, the area near the abandoned in place former UST (or monitoring well MW-1) has been recognized as the "hot spot" on site. Sampled TPH-g concentrations from MW-1 during the first through third quarterly monitoring events in 2004 were in the range of 2,900 µg/L (lowest) to 18,000 µg/L (highest). Benzene concentrations ranged from 240 µg/L to 880 µg/L within the same period. Historically the maximum MTBE concentration was 0.85 µg/L, which was sampled from the third quarter 2004. However, none of the wells (MW-1 – MW-4) reported hydrocarbon or MTBE concentrations that were above detection limits in the fourth quarter 2004 or first quarter 2005. In the second quarter 2005, there was a slight rebound in contaminant concentrations in MW-1. In the third quarter 2005, contaminant concentrations returned to non-detect levels for all analytes except xylenes in MW-1, which was reported at 0.52 µg/L. The cumulative groundwater elevations and analytical data for the current and previous quarters are listed in **Table 2**. The status of enhanced bioremediation is reflected in the indirect geo-chemical indicators listed in **Tables 3 and 4**.

iSOC System Operation and Maintenance

iSOC operation and maintenance (O&M) is conducted on a monthly basis. The O&M event includes the following activities:

- Gauge all monitoring wells (MW-1 through MW-4);
- Conduct field sampling on MW-1 and MW-2 for pH, temperature, conductivity, DO, ORP, total Fe, Fe^{2+};
- Record oxygen usage and check for leaks;
- Inspect iSOC unit in MW-1 to ensure it is functioning correctly.

The results of the monthly O&M are included in Table 3.

Conclusions

- Hydrocarbon concentrations in the groundwater samples obtained from all monitoring wells (MW-1 through MW-4) returned to non-detect levels after a slight rebound in the second quarter 2005.
- The only contaminant above detection limits was from MW-1, which reported Xylenes at 0.52 µg/L.
- The elevated hydrocarbon concentrations reported in MW-1 are significantly lower than the concentrations observed historically in MW-1 when the groundwater elevation is at the annual low. These results combined with the six-month geo-chemical study (4/18/05) indicate that the iSOC system is operating effectively and has significantly reduced the contaminant concentrations in the "hot spot".

Recommendations

- To confirm the expected groundwater remediation prior to site closure, quarterly monitoring should continue; the iSOC system should be maintained at its current operation until all wells report contaminant concentrations at non-detect levels for four consecutive quarters.
- When four consecutive quarters of non-detect concentrations have been achieved with iSOC system in operation, at that point, Clearwater recommends 4 quarters of post-iSOC treatment groundwater monitoring is performed to verify that no rebound occurs and the site is remediated.

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Certification

This report was prepared under the supervision of a Professional Geologist in the state of California at Clearwater Group. All statements, conclusions and recommendations are based solely upon published results from previous consultants, field observations by Clearwater Group and laboratory analysis performed by a California DHS-certified laboratory related to the work performed by Clearwater Group. Clearwater Group is not responsible for laboratory errors. The information and interpretation contained in this document should not be relied upon by a third party. The service provided by Clearwater Group has been conducted in a manner consistent with the level of care and skill ordinarily exercised by members of our profession currently practicing under similar conditions in the area of the site. No other warranty, expressed or implied, is made.

Sincerely,
Clearwater Group

Matthew Ryder-Smith
Project Manager

James A. Jacobs P.G. # 4816, CHG # 88
Chief Hydrogeologist

PROFESSIONAL GEOLOGIST
JAMES ALAN
JACOBS
NO. 88
CERTIFIED
HYDROGEOLOGIST
STATE OF CALIFORNIA

CC: Jean and Everett Seymour
1111 Riverside Drive
Rio Dell, CA 95562

Ms. Kasey Ashley
North Coast Regional Water Quality Control Board
5550 Skylane Boulevard, Suite A
Santa Rosa, CA 95403

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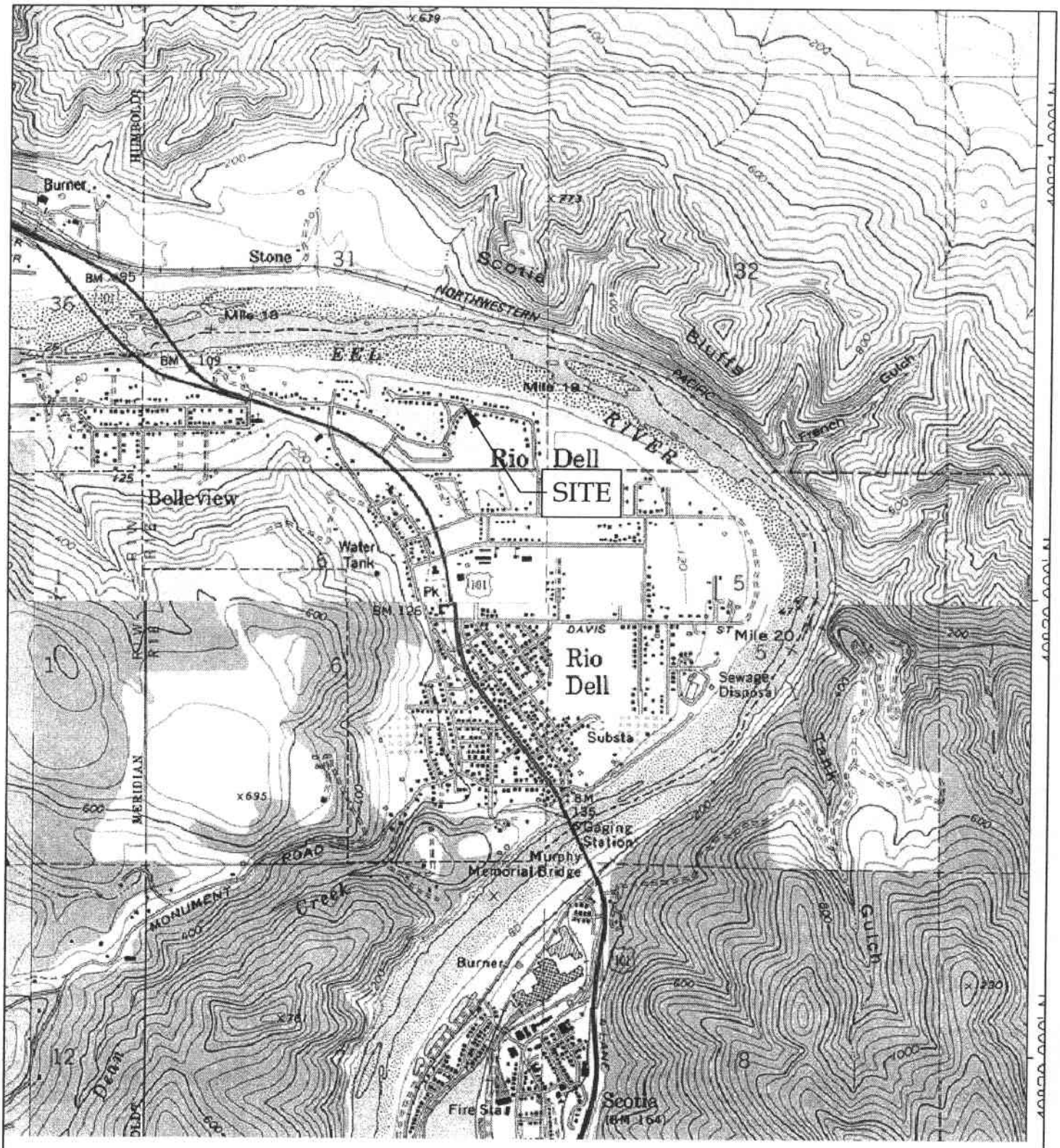
Attachments

Figure 1: Site Vicinity
Figure 2: Site Plan
Figure 3: Groundwater Elevations and Gradient - 10/6/05
Figure 4: Dissolved-Phase Hydrocarbon Distribution - 10/6/05
Table 1: Well Construction Data
Table 2: Groundwater Elevations and Analytical Data
Table 3: iSOC Field Sampling Parameters
Table 4: Indirect Geochemical Indicators
Clearwater Groundwater Monitoring and Sampling Protocols
Clearwater Well Gauging Data/Purge Calculations and Well Purging Data
Laboratory Report and Chain-of-Custody Form

FIGURES



SITE LOCATION MAP
Seymour Residence
1111 Riverside Drive
Rio Dell, CA

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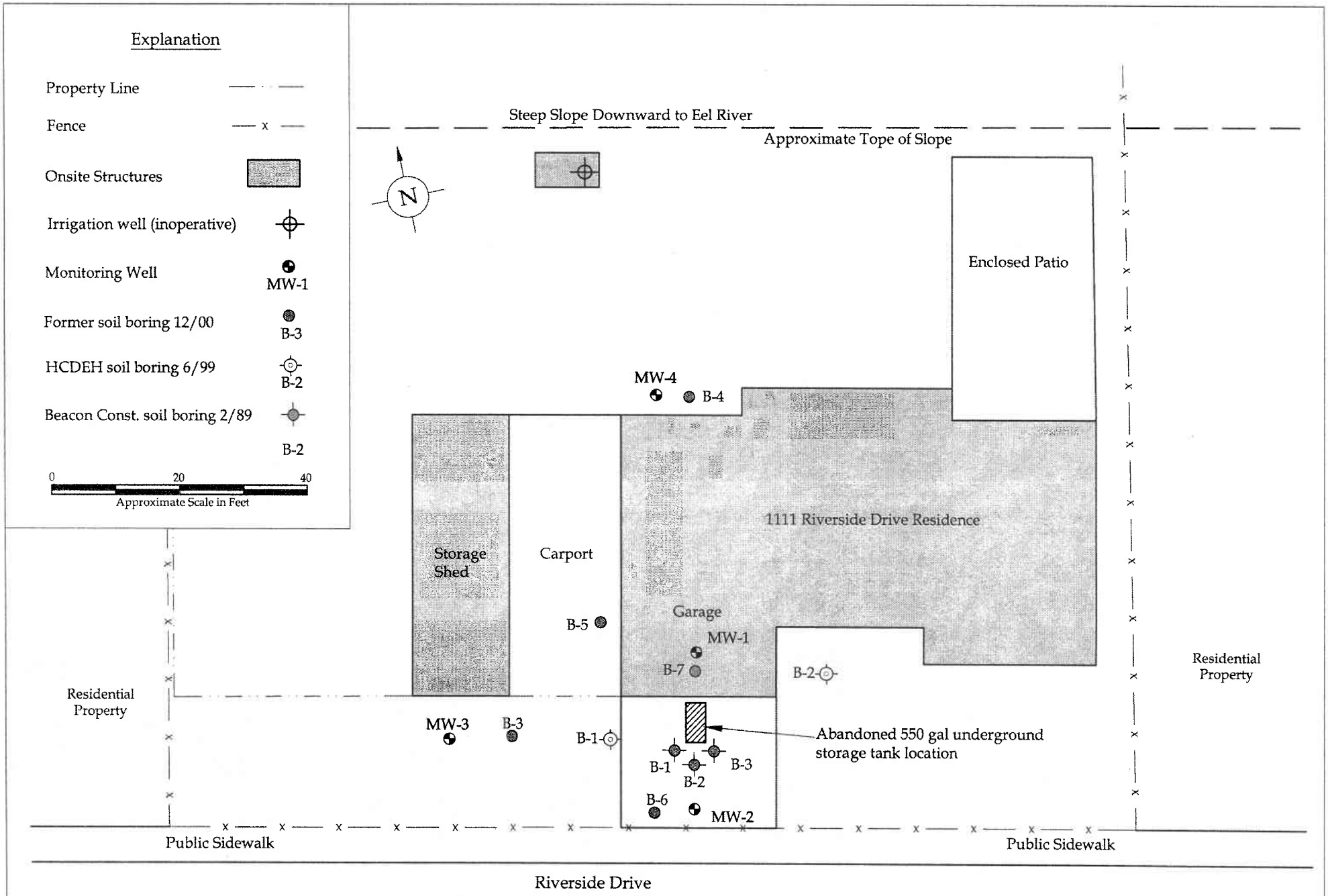
Project No.	Figure Date	Figure
AE001H	**8/05**	**1**



Site Plan

Seymour Residence
1111 Riverside Drive
Rio Dell, California

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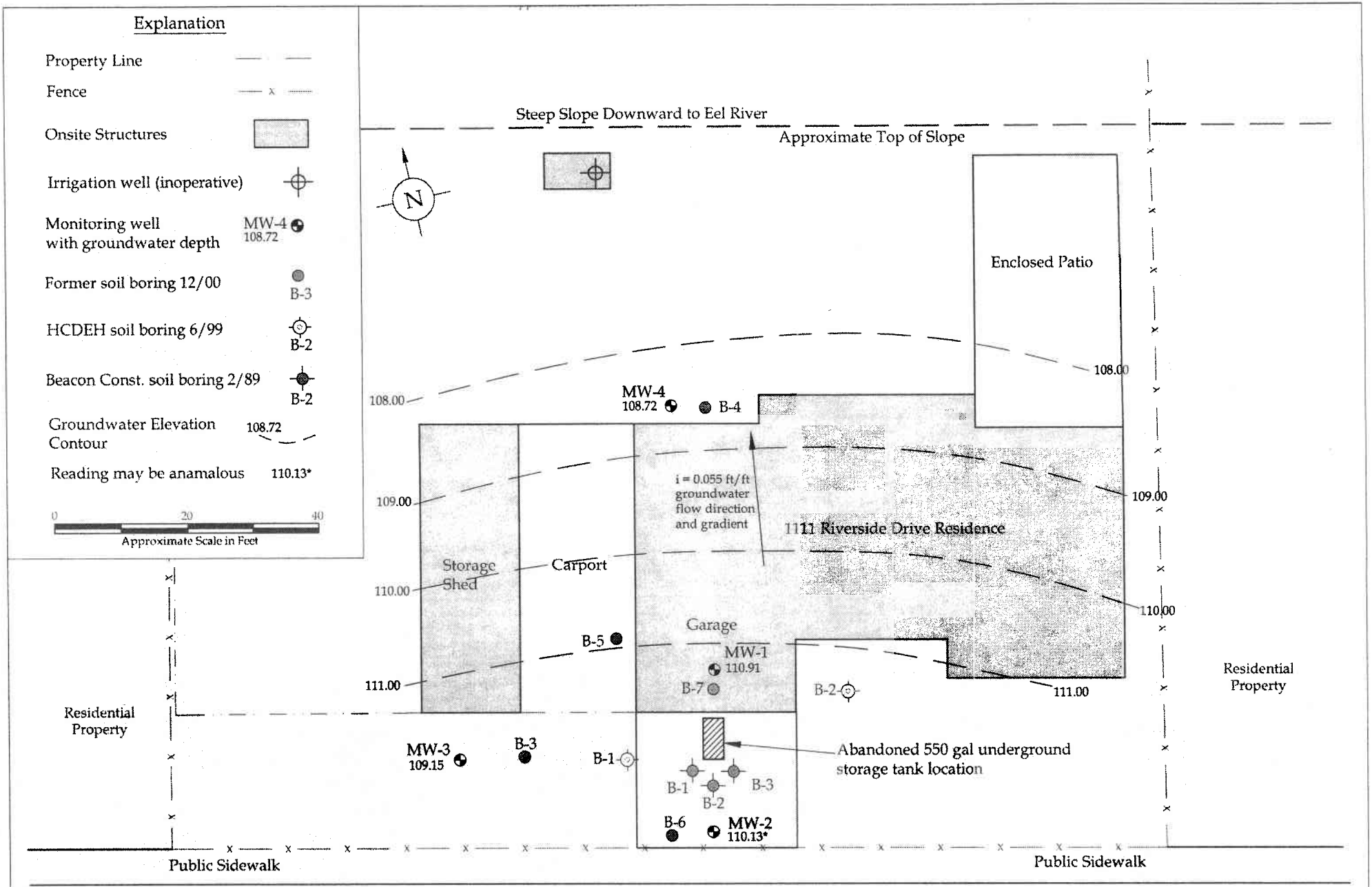
Project No.	Figure Date	Figure
AE001H	**12/05**	**2**



Groundwater Elevations and Gradient (10/6/05)

Seymour Residence
1111 Riverside Drive
Rio Dell, California

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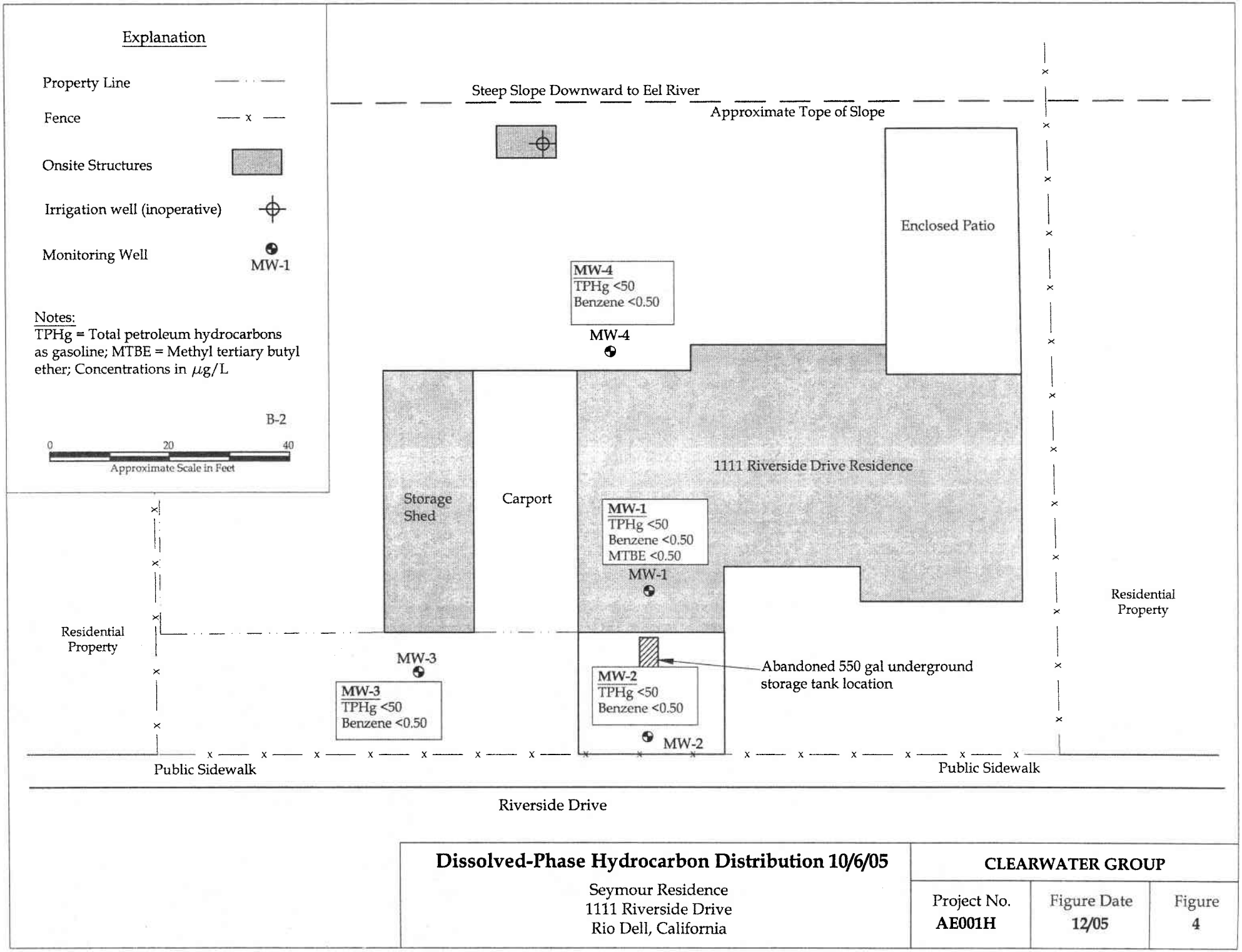
Project No.	Figure Date	Figure
AE001H	12/05	3



Dissolved-Phase Hydrocarbon Distribution 10/6/05

Seymour Residence
1111 Riverside Drive
Rio Dell, California

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Project No.	Figure Date	Figure
AE001H	**12/05**	**4**

TABLES

Table 1
WELL CONSTRUCTION DATA
Seymour Residence
1111 Riverside Drive
Rio Dell, California
Project # AE001C

Well Identification	Date Intstalled	Intstalled by	Casing Diameter (inches)	Total Depth (feet)	Blank Interval (feet)	Screened Interval (feet)	Slot Size (inches)	Filter Pack (feet)	Bentonite Seal (feet)	Cement (feet)
MW-1	3/7/2002	Clearwater	2	12.5	0-3	3-12.5	0.02	2-12.5	1-2	0-1
MW-2	3/7/2002	Clearwater	2	15	0-3	3-15	0.02	2-15	1-2	0-1
MW-3	3/7/2002	Clearwater	2	15	0-3	3-15	0.02	2-15	1-2	0-1
MW-4	3/7/2002	Clearwater	2	13	0-3	3-13	0.02	2-13	1-2	0-1

Table 2
Groundwater Elevations and Analytical Data
Seymour Residence
1111 Riverside Drive
Rio Dell, CA
Project # AE001C

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Methanol (µg/L)	Ethanol (µg/L)	Lead (µg/L)
MW-1	3/13/2002	116.42	2.15	114.27	380	35	6.8	16	37	<0.5	7.7	<0.5	<0.5	<0.5	<50	<5	<5
	6/18/2002	116.42	5.57	110.85	3,700	440	67	130	150	<0.5	28	<0.5	<0.5	<0.5	<50	<5	--
	9/19/2002	116.42	6.78	109.64	6,900	660	77	400	440	<2.5	39	<2.5	<2.5	<2.5	<250	<25	--
	12/31/2002	116.42	0.69	115.73	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	65	<5	--
	3/26/2003	116.42	1.53	114.89	300	21	5.3	11	21	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--
	6/23/2003	116.42	5.16	111.26	8,200	550	180	400	710	--	--	--	--	--	--	--	--
	9/29/2003	116.42	7.87	108.55	28,000	1,800	1,100	1,200	3,700	<10	<100	<10	<10	<10	--	--	--
	12/23/2003	116.42	3.32	113.10	1,400	190	9.8	25	45	<0.5	5.5	<0.5	<0.5	<0.5	--	--	--
	3/18/2004	116.42	3.82	112.60	2,900	240	73	110	380	<1	<10	<1	<1	<1	--	--	--
	6/22/2004	116.42	5.47	110.95	18,000	880	660	610	2,400	<5.0	<5.0	<5.0	<5.0	<5.0	--	--	--
	10/5/2004	116.42	9.92	106.50	4,200	290	11	250	140	0.85	<0.5	<0.5	<0.5	<0.5	--	--	--
	1/4/2005	116.42	1.74	114.68	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	--
	4/18/2005	116.42	2.75	113.67	<50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<0.50	<0.50	<0.50	--	--	--
	8/4/2005	116.42	5.84	110.58	81	3.7	1.4	1.6	5.60	<0.50	<5.0	<0.50	<0.50	<0.50	--	--	--
	10/6/2005	**116.42**	**5.51**	**110.91**	**<50**	**<0.50**	**<0.50**	**<0.50**	**0.52**	**<0.50**	**<5.0**	**<0.50**	**<0.50**	**<0.50**	**--**	**--**	**--**
MW-2	3/13/2002	115.65	9.35	106.30	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	26	<5
	6/18/2002	115.65	5.29	110.36	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	--
	9/19/2002	115.65	6.63	109.02	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	--
	12/31/2002	115.65	5.61	110.04	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	--
	3/26/2003	115.65	5.55	110.10	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	--
	6/23/2003	115.65	6.08	109.57	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	9/29/2003	115.65	7.15	108.50	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	12/23/2003	115.65	6.09	109.56	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	3/18/2004	115.65	5.31	110.34	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	6/22/2004	115.65	6.11	109.54	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	10/5/2004	115.65	7.47	108.18	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	1/4/2005	115.65	1.18	114.47	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--
	4/18/2005	115.65	3.32	112.33	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--
	8/4/2005	115.65	4.62	111.03	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--
	10/6/2005	**115.65**	**5.52**	**110.13**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
MW-3	3/13/2002	115.62	1.51	114.11	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	<5
	6/18/2002	115.62	4.81	110.81	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	--
	9/19/2002	115.62	5.48	110.14	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	--
	12/31/2002	115.62	0.00	115.62	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	--
	3/26/2003	115.62	0.25	115.37	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	--
	6/23/2003	115.62	4.44	111.18	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	9/29/2003	115.62	8.01	107.61	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	12/23/2003	115.62	2.32	113.30	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	3/18/2004	115.62	3.37	112.25	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--

Table 2
Groundwater Elevations and Analytical Data
Seymour Residence
1111 Riverside Drive
Rio Dell, CA
Project # AE001C

Well No.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	TPHg (µg/L)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	TBA (µg/L)	DIPE (µg/L)	ETBE (µg/L)	TAME (µg/L)	Methanol (µg/L)	Ethanol (µg/L)	Lead (µg/L)
	6/22/2004	115.62	4.83	110.79	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	10/5/2004	115.62	10.31	105.31	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	1/4/2005	115.62	1.76	113.86	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--
	4/18/2005	115.62	1.56	114.06	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--
	8/4/2005	115.62	5.08	110.54	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--
	10/6/2005	**115.62**	**6.47**	**109.15**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	--	--	--	--	--	--	--	--
MW-4	3/13/2002	116.75	2.41	114.34	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	<5
	6/18/2002	116.75	7.31	109.44	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	--
	9/19/2002	116.75	10.47	106.28	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	--
	12/31/2002	116.75	1.22	115.53	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	--
	3/26/2003	116.75	2.27	114.48	<50	<0.5	<0.5	<0.5	<0.5	<0.5	<5	<0.5	<0.5	<0.5	<50	<5	--
	6/23/2003	116.75	7.03	109.72	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	9/29/2003	116.75	10.75	106.00	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	12/23/2003	116.75	4.32	112.43	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	3/18/2004	116.75	4.53	112.22	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	6/22/2004	116.75	7.55	109.20	<50	<0.5	<0.5	<0.5	<0.5	--	--	--	--	--	--	--	--
	10/5/2004	116.75	12.82	103.93	DRY - NO ANALYSES CONDUCTED												
	1/4/2005	116.75	2.73	114.02	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--
	4/18/2005	116.75	3.68	113.07	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--
	8/4/2005	116.75	7.42	109.33	<50	<0.50	<0.50	<0.50	<0.50	--	--	--	--	--	--	--	--
	10/6/2005	**116.75**	**8.03**	**108.72**	**<50**	**<0.50**	**<0.50**	**<0.50**	**<0.50**	--	--	--	--	--	--	--	--

MCL	--	1	150	700	1,750	13
Taste & odor threshold	5	--	42	29	17	--
NCRWQCB Cleanup Goals	<50	0.50	42	29	17	5

Notes :

TOC: Top of casing referenced to benchmark NGS (# AC 9251) Aluminum Cap HPGN D CA 01 PA (State HWY 211)
DTW: Depth to water as referenced to benchmark.
GWE: Ground water elevation (msl) as referenced to benchmark
µg/L= micrograms per liter=parts per billion = ppb
"--": Not analyzed, available, or applicable
MCL: Maximum contaminant level, an enforceable drinking water standard
AL: Action level, a nonenforceable drinking water standard
Taste & odor threshold: A drinking water standard
NCRWQCB = North Coast Regional Water Quality Control Board (Region 1)

TPHg: Total Petroleum Hydrocarbons as Gasoline by EPA Method 8260B
BTEX by EPA Method 8260B
MTBE: Methyl Tertiary Butyl Ether by EPA Method 8260B
TBA: Tertiary Butyl Alcohol by EPA Method 8260B
DIPE: Di-Isopropyl Ether by EPA Method 8260B
ETBE: Ethyl Tertiary Butyl Ether by EPA Method 8260B
TAME: Tertiary Amyl Methyl Ether by EPA Method 8260B
Methanol by EPA Method 8260B
Ethanol: By EPA Method 8260B

Table 3
iSOC Field Sampling Parameters
Seymour Residence
111 Riverside Drive, Rio Dell, CA

Well I. D.	Sampling Date	TOC (feet)	DTW (feet)	GWE (feet)	pH	TEMP (°F)	COND. (mS/cm)	DO mg/L	ORP mV	Total Fe mg/L	Fe^{2+} mg/L
MW-1	10/5/2004 (pre install)	116.42	9.92	106.50	6.27	66.6	619	3.6	47	8.8	4.6
MW-1	10/25/2004 (2-week)	116.42	2.98	113.44	6.47	62.9	273	39.7	54	1.1	0.0
MW-1	11/2/2004 (4-week)	116.42	3.91	112.51	6.26	70.1	290	38.1	50	0.4	0.0
MW-1	12/03/2004 (8-weeks)	116.42	3.62	112.80	6.28	49.3	257	27.7	46	2.4	0.0
MW-1	1/4/2005 (4th Quarter)	116.42	1.74	114.68	6.47	57.7	255	30.6	47	2.8	0.0
MW-1	2/2/2005 (O&M event)	116.42	2.48	113.94	7.51	52.7	352	41.5	55	1.2	0.0
MW-1	4/18/2005 (1st quarter)	116.42	2.75	113.67	5.70	57.8	249	24.9	58	2.2	0.4
MW-1	5/31/05 (O&M event)	116.42	3.78	112.64	6.75	72.1	395	34.9	-10	1.0	0.0
MW-1	7/5/2005 (O&M event)	116.42	4.56	111.86	7.11	65.6	222	51.4	23	1.2	0.0
MW-1	8/4/2005 (2nd quarter)	116.42	5.84	110.58	7.16	69.5	214	NS	NS	NS	NS
MW-1	9/9/2005 (O&M event)	116.42	7.01	109.41	6.87	62.9	346	13	27	0.8	0.0
MW-1	10/6/2005 (3rd quarter)	116.42	5.51	110.91	6.87	63.3	199	18.2	113	0.4	0.0
MW-2	10/5/2004 (pre install)	115.65	7.47	108.18	6.12	69.5	342	5.0	17	1.0	0.0
MW-2	10/25/2004 (2-week)	115.65	5.69	109.96	6.49	64.5	364	6.5	52	0.3	0.6
MW-2	11/2/2004 (4-week)	115.65	5.25	110.40	6.05	68.5	380	6.9	53	0.0	0.0
MW-2	12/03/2004 (8-weeks)	115.65	4.46	111.19	6.18	49.6	257	5.1	43	0.0	0.0
MW-2	1/4/2005 (4th Quarter)	115.65	1.18	114.47	6.49	57.4	372	5.5	39	0.4	0.0
MW-2	2/2/2005 (O&M event)	115.65	4.17	111.48	7.52	52.9	395	5.8	51	0.9	0.0
MW-2	4/18/2005 (1st quarter)	115.65	3.32	112.33	6.24	59.8	355	2.5	45	0.2	0.0
MW-2	5/31/05 (O&M event)	115.65	4.82	110.83	6.38	64.9	489	5.4	34	0.0	0.0
MW-2	7/5/2005 (O&M event)	115.65	4.46	111.19	7.01	70.5	308	4.1	9	0.0	0.0
MW-2	8/4/2005 (2nd quarter)	115.65	4.62	111.03	6.99	67.2	280	NS	NS	NS	NS
MW-2	9/9/2005 (O&M event)	115.65	5.41	110.24	6.15	66.5	438	7.9	25	0.0	0.0
MW-2	10/6/2005 (3rd quarter)	115.65	5.52	110.13	6.30	69.4	294	7.5	112	0.0	0.0

Notes:

TOC	Top of casing elevation referenced to project datum
DTW	Depth to water below TOC
GWE	Groundwater elevation (TOC-DTW)
DO	dissolved oxygen - milligrams per liter (mg/L)
ORP	oxidation-reduction potential - millivolts (mV)
Total Fe	total iron - milligrams per liter (mg/L)
Fe^{2+}	ferrous iron - milligrams per liter (mg/L)
NS	Not Sampled

TABLE 4 - INDIRECT GEOCHEMICAL INDICATORS

Site - Jean and Everett Seymour Property
1111 Riverside Dr.
Rio Dell, California

WELL	DATE	Total Iron (mg/l); Field Test	Ferrous Iron Fe^{+2} (mg/l); Field Test	Ferric Iron Fe^{+3} (mg/l) by subtraction	Fe^{+2}/Fe total Ratio	Dissolved Oxygen (mg/l); Field Test	Oxidation Reduction Potential (ORP) (mV); Field Test	pH Field Test	TPH-gasoline (ug/l)	Benzene (ug/l)
MW-1	10/6/2004	8.8	4.6	4.4	52%	3.6	47	6.27	4,200	290
	1/5/2005	2.8	0.0	2.8	0%	30.6	47	6.47	<50	<0.5
	4/18/2005	2.2	0.4	1.8	18%	24.9	58	5.7	<50	<0.5
	8/4/2005	NA	NA	NA	NA	NA	NA	NA	81	3.7
	10/6/2005	**0.4**	**0.0**	**0.4**	**0%**	**18.2**	**113**	**6.87**	**<50**	**<0.5**
MW-2	10/6/2004	1.0	0.0	1.0	0%	5	17	6.07	<50	<0.5
	1/5/2005	0.4	0.0	0.4	0%	5.5	39	6.49	<50	<0.5
	4/18/2005	0.2	0.0	0.2	0%	2.5	45	6.24	<50	<0.5
	8/4/2005	NA	NA	NA	NA	NA	NA	NA	<50	<0.5
	10/6/2005	**0.0**	**0.0**	**0.0**	-	**7.5**	**112**	**6.30**	**<50**	**<0.5**
MW-3	10/6/2004	3.0	0.0	3.0	0%	3.6	-6	6.28	<50	<0.5
	1/5/2005	6.6	0.0	6.6	0%	4.9	55	6.17	<50	<0.5
	4/18/2005	2.0	0.0	2.0	0%	1.8	60	6.01	<50	<0.5
	8/4/2005	NA	NA	NA	NA	NA	NA	NA	<50	<0.5
	10/6/2005	**0.0**	**0.0**	**0.0**	-	**6.4**	**88**	**6.24**	**<50**	**<0.5**
MW-4	10/6/2004	3.0	0.0	3.0	0%	3.6	-6	6.28	<50	<0.5
	1/5/2005	1.4	0.0	1.4	0%	6.6	40	6.39	<50	<0.5
	4/18/2005	1.4	0.4	1.0	29%	6.8	62	5.39	<50	<0.5
	8/4/2005	NA	NA	NA	NA	NA	NA	NA	<50	<0.5
	10/6/2005	**1.0**	**0.0**	**1.0**	**0%**	**6.1**	**78**	**5.84**	**<50**	**<0.5**

NOTES:
mg/L: miligrams per liter.
ND: Not detected above the laboratory reporting limit (see laboratory reports for reporting limits).
NA: Not analyzed
calc: Calculation performed in the laboratory

CLEARWATER GROUNDWATER MONITORING
AND
SAMPLING PROTOCOLS

CLEARWATER GROUP

Groundwater Monitoring and Sampling Field Procedures

Groundwater Monitoring

Prior to beginning, a decontamination area is established. Decontamination procedures consist of scrubbing downhole equipment in an Alconox® solution wash (wash solution is pumped through any purging pumps used), and rinsing in a first rinse of potable water and a second rinse of potable water or deionized water if the latter is required. Any non-dedicated down hole equipment is decontaminated prior to use.

Prior to purging and sampling a well, the static water level is measured to the nearest 0.01 feet with an electronic water sounder. Depth to bottom is typically measured once per year, at the request of the project manager, and during Clearwater's first visit to a site. If historical analytical data are not available, with which to establish a reliable order of increasing well contamination, the water sounder and tape will be decontaminated between each well. If floating separate-phase hydrocarbons (SPH) are suspected or observed, SPH is collected using a clear, open-ended product bailer, and the thickness is measured to the nearest 0.01 feet in the bailer. SPH may alternatively be measured with an electronic interface probe. Any monitoring well containing a measurable thickness of SPH before or during purging is not additionally purged and no sample is collected from that well. Wells containing a hydrocarbon sheen are sampled unless otherwise specified by the project manager. Field observations such as well integrity as well as water level measurements and floating product thicknesses are noted on the Gauging Data/Purge Calculations form.

Well Purging

Each monitoring well to be sampled is purged using either a PVC bailer or a submersible pump. Physical parameters (pH, temperature and conductivity) of the purge water are monitored during purging activities to assess if the water sample collected is representative of the aquifer. If required, parameters such as dissolved oxygen, turbidity, salinity etc. are also measured. Samples are considered representative if parameter stability is achieved. Stability is defined as a change of less than 0.25 pH units, less than 10% change in conductivity in micro mhos, and less than 1.0 degree centigrade (1.8 degrees Fahrenheit) change in temperature. Parameters are measured in a discreet sample decanted from the bailer separately from the rest of the purge water. Parameters are measured at least four times during purging; initially, and at volume intervals of one well volume. Purging continues until three well casing volumes have been removed or until the well completely dewaters. Wells which dewater or demonstrate a slow recharge, may be sampled after fewer than three well volumes have been removed. Well purging information is recorded on the Purge Data sheet. All meters used to measure parameters are calibrated daily. Purge water is sealed, labeled, and stored on site in D.O.T.-approved 55-gallon drums. After being chemically profiled, the water is removed to an appropriate disposal facility by a licensed waste hauler.

Groundwater Sample Collection

Groundwater samples are collected immediately after purging or, if purging rate exceeds well recharge rate, when the well has recharged to at least 80% of its static water level. If recharge is extremely slow, the well is allowed to recharge for at least two hours, if practicable, or until sufficient volume has accumulated for sampling. The well is sampled within 24 hours of purging or repurged. Samples are collected using polyethylene bailers, either disposable or dedicated to the well. Samples being analyzed for compounds most sensitive to volatilization are collected first. Water samples are placed in appropriate laboratory-supplied containers, labeled, documented on a chain of custody form and placed on ice in a cooler for transport to a state-certified analytical laboratory. Analytical detection limits match or surpass standards required by relevant local or regional guidelines.

Quality Assurance Procedures

To prevent contamination of the samples, Clearwater personnel adhere to the following procedures in the field:

- A new, clean pair of latex gloves are put on prior to sampling each well.
- Wells are gauged, purged and groundwater samples are collected in the expected order of increasing degree of contamination based on historical analytical results.
- All purging equipment will be thoroughly decontaminated between each well, using the procedures previously described at the beginning of this section.
- During sample collection for volatile organic analysis, the amount of air passing through the sample is minimized. This helps prevent the air from stripping the volatiles from the water. Sample bottles are filled by slowly running the sample down the side of the bottle until there is a convex meniscus over the mouth of the bottle. The lid is carefully screwed onto the bottle such that no air bubbles are present within the bottle. If a bubble is present, the cap is removed and additional water is added to the sample container. After resealing the sample container, if bubbles still are present inside, the sample container is discarded and the procedure is repeated with a new container.

Laboratory and field handling procedures may be monitored, if required by the client or regulators, by including quality control (QC) samples for analysis with the groundwater samples. Examples of different types of QC samples are as follows:

- Trip blanks are prepared at the analytical laboratory by laboratory personnel to check field handling procedures. Trip blanks are transported to the project site in the same manner as the laboratory-supplied sample containers to be filled. They are not opened, and are returned to the laboratory with the samples collected. Trip blanks are analyzed for purgable organic compounds.
- Equipment blanks are prepared in the field to determine if decontamination of field sampling equipment has been effective. The sampling equipment used to collect the groundwater samples is rinsed with distilled water which is then decanted into laboratory-supplied containers. The equipment blanks are transported to the laboratory, and are analyzed for the same chemical constituents as the samples collected at the site.
- Duplicates are collected at the same time that the standard groundwater samples are being collected and are analyzed for the same compounds in order to check the reproducibility of laboratory data. They are typically only collected from one well per sampling event. The duplicate is assigned an identification number that will not associate it with the source well.

Generally, trip blanks and field blanks check field handling and transportation procedures. Duplicates check laboratory procedures. The configuration of QC samples is determined by Clearwater depending on site conditions and regulatory requirements.

CLEARWATER WELL GAUGING DATA/
PURGE CALCULATONS
AND
WELL PURGING DATA

CLEARWATER GROUP
229 Tewksbury Avenue,
Point Richmond, CA 94801
Tel: (510) 307-9943 Fax: (510) 232-2823

WELL GAUGING/PURGING CALCULATIONS DATA SHEET

Date: 10/6/05

Job No.: AECOM

Location: 111 RIVERSIDE DRIVE RIO DELL, CA

Tech(s): RODNEY BERRY

Drums on Site @ TOA/TOD — Soil: 0 Water: 0

Total number of DRUMS used for this event — Soil: 0 Water: 0

Well No.	Diameter (in)	DTB (ft)	DTW (ft)	ST (ft)	CV (gal)	PV (gal)	SPL (ft)	Notes
MW-4	2	12.82	8.03	4.79	0.76	2.29		
3	"	14.87	6.47	8.4	1.34	4.03		
2	"	14.87	5.52	9.35	1.49	4.48		
1	"	12.84	5.51	7.33	1.17	3.51		

Explanation:
DTB = Depth to Bottom
DTW = Depth to Water
ST = Saturated Thickness (DTB-DTW) must be > 1 foot
CV = Casing Volume (ST x cf)
PV = Purge Volume (standard 3 x CV, well development 10 x CV)
SPL = Thickness of Separate Phase Liquid

Conversion Factors (cf)
2-inch diameter well cf = 0.16 gal/ft
4-inch diameter well cf = 0.65 gal/ft
6-inch diameter well cf = 1.44 gal.ft

PURGE DATA SHEET

Sheet 1 of 2

Job No.: AE001H Location: 111 RIVERSIDE DRIVE, RIO DELL, CA Date: 10/6/05 Tech: RODNEY BEL

WELL #	TIME	VOL. (gal.)	ORP	CND	TMP	DO	pH	Fe^{2+}	Fe_T
MW-4	1737	1.00	078	210	60.6	06.1	6.13	0.0	1.0
Calc. purge	1739	2.00		208	60.6		6.07		
volume	1741	2.50		208	60.6		6.06		
2.29									

Sample for: TPHg TPHd 8260 BTEX MTBE Metals

Purging Method: PVC Bailer/Pump/Disp. Bailer

COMMENTS: color, turbidity, recharge, sheen, odor

light brown, low, good, NO SHEEN, NO ODOR

POST DEPTH TO WATER: 7.94 SAMPLE TIME: 1830

WELL #	TIME	VOL. (gal.)	ORP	CND	TMP	DO	pH	Fe^{2+}	Fe_T
MW-3	1748	2.00	088	196	63.5	06.4	6.44	0.0	0.0
Calc. purge	1752	3.00		196	63.5		6.45		
volume	1755	4.50		196	63.4		6.45		
4.03									

Sample for: TPHg TPHd 8260 BTEX MTBE Metals

Purging Method: PVC Bailer/Pump/Disp. Bailer

COMMENTS: color, turbidity, recharge, sheen, odor

light brown, low, good, NO SHEEN, NO ODOR

POST DEPTH TO WATER: 6.32 SAMPLE TIME: 1845

WELL #	TIME	VOL. (gal.)	ORP	CND	TMP	DO	pH	Fe^{2+}	Fe_T
MW-2	1803	2.00	112	301	68.1	07.5	6.35	0.0	0.0
Calc. purge	1805	3.00		300	68.3		6.35		
volume	1808	4.50		303	68.5		6.35		
4.48									

Sample for: TPHg TPHd 8260 BTEX MTBE Metals

Purging Method: PVC Bailer/Pump/Disp. Bailer

COMMENTS: color, turbidity, recharge, sheen, odor

CLEAR, low, good, NO SHEEN, NO ODOR

POST DEPTH TO WATER: 5.48 SAMPLE TIME: 1900

PURGE DATA SHEET

Sheet 2 of 2

Job No.: AE001 # Location: 111 RIVERSIDE DRIVE, RIO DELL, CA Date: 10/6/05 Tech: RODNEY BERRI

WELL #	TIME	VOL. (gal.)	ORP	CND	TMP	DO	pH	Fe^{2+}	Fe_T
MW4	1813	2.00	113	202	65.7	18.2	6.76	0.0	0.4
	1815	3.00		201	65.6		6.76		
Calc. purge	1818	4.00		202	65.7		6.76		
volume									
3.5									

Sample for: 5OX15

TPHg TPHd 8260

BTEX MTBE Metals

Purging Method:

PVC Bailer/Pump/Disp. Bailer

COMMENTS: color, turbidity, recharge, sheen, odor

CLEAR, LOW, GOOD, NO SHEEN, NO ODOR

POST DEPTH TO WATER: 5.50 SAMPLE TIME: 1915

WELL #	TIME	VOL. (gal.)	ORP	CND	TMP	DO	pH	Fe^{2+}	Fe_T
Calc. purge									
volume									

Sample for:

TPHg TPHd 8260

BTEX MTBE Metals

Purging Method:

PVC Bailer/Pump/Disp. Bailer

COMMENTS: color, turbidity, recharge, sheen, odor

POST DEPTH TO WATER: SAMPLE TIME:

WELL #	TIME	VOL. (gal.)	ORP	CND	TMP	DO	pH	Fe^{2+}	Fe_T
Calc. purge									
volume									

Sample for:

TPHg TPHd 8260

BTEX MTBE Metals

Purging Method:

PVC Bailer/Pump/Disp. Bailer

COMMENTS: color, turbidity, recharge, sheen, odor

POST DEPTH TO WATER: SAMPLE TIME:

Clearwater Group

ISOC SYSTEM FIELD MONITORING DATA PAGE 2

CLIENT: Mrs Seymour
PROJECT NAME: Seymore Residence Date: 10/6/2005
PROJECT NUMBER: AE001D TECHNICIAN: Rodney Berry
Project Manager: Matthew Ryder-Smith

SYSTEM DESCRIPTION	UTILITIES
InVentures ISOC system	Oxygen Cylinder

Initial install [ ] [ ] Routine maintenance

ARRIVAL TIME 435 PM	DEPARTURE TIME
Arrival System On? (Y/N) Time: 430 PM	Departure System On? (Y/N) 715 PM

Oxygen Cylinder	ON ? Yes / No		Oxygen Cylinder	ON ?	Yes / No
Tank Pressure	2200 psi		Tank Pressure	2200	psi
Line Pressure	50 psi		Line Pressure	50	psi
Before Adjustment of Guages			After Adjustment of Guages		
ISOC(MW-1)			ISOC(MW-1)		
Inlet Pressure	psi		Inlet Pressure		psi
Flow Rate	cc / min		Flow Rate		cc / min
Well Pressure	psi		Well Pressure		psi
ISOC(MW-2)			ISOC(MW-2)		
Inlet Pressure	psi		Inlet Pressure		psi
Flow Rate	cc / min		Flow Rate		cc / min
Well Pressure	psi		Well Pressure		psi

WELL DATA

Well #	DTB	DTW	ST	DO	ORP	FE	FE2+	PH	TEMP.	COND.*
MW-1	12.84	5.51	7.33	18.2	113	0.4	0.0	6.87	63.3	199
MW-2	14.87	5.52	9.35	07.5	112	0.0	0.8	6.30	69.4	294
MW-3	14.87	6.47	8.4	06.4	088	0.0	0.0	6.24	65.1	178
MW-4	12.82	8.03	4.79	06.5	078	1.0	0.0	5.84	61.7	361

MAINTENANCE/DATA COLLECTION CHECKLIST (Check Items Completed)

Item	Check	Description	Schedule:	
Oxygen Cylinder		psi 2200 % full	every visit	
ISOC Control Panel			every visit	
Housekeeping			every visit	
Other Maintenance Performed:		Sample	check	
Conductivity Meter Used: ✓	Settings/Units Reported:			

Notes:
DTB Depth to Bottom ST Saturated Thickness (DTB-DTW)
DTW Depth to Water

CLEARWATER GROUP, INC.

DAILY FIELD REPORT

Page: ____ of ____

Date: 10/6/05

Field Engineer/ Technician: RODNEY BERRY

Project Name: SEYMOUR RESIDENCE

Project Number: AE0017H

Company/ Firm: TAG Inc. dba Clearwater Group

Project Manager: MATTHEW Ryder-Smith

Site Contact: _____

TIME	EVENTS/COMMENTS/REMARKS
800	ARRIVED at WORK BEGAN my DAILY FIELD REPORT (timesheet) 2041 PAPERWORK
930	BEGAN CLEANING out VAN 2036
1030	BEGAN PUMPING TANK INTO 1 DRUM (ZB2296) 2070 other field work
1130	mob to site
430	ARRIVED at the site 2040 travel
715	WAS all DONE / DEMOB to motel
730	ARRIVED at motel 2240 sampling 2620 O+M
745	IN my motel Room 2040
	2040
	TEMP COOL 60's

Signature: _____

Date: _____

Attachments: _____

Page: ____ of ____

Figures Included: _____

LABORATORY REPORT
AND
CHAIN-OF-CUSTODY FORM

KIFF Analytical LLC

Report Number : 46386
Date : 10/13/2005

Matthew Ryder-Smith
Clearwater Group, Inc.
229 Tewksbury Avenue
Point Richmond, CA 94801

Subject : 4 Water Samples
Project Name : SEYMOUR RESIDENCE
Project Number : AE001A

Dear Mr. Ryder-Smith,

Chemical analysis of the samples referenced above has been completed. Summaries of the data are contained on the following pages. Sample(s) were received under documented chain-of-custody. US EPA protocols for sample storage and preservation were followed.

Kiff Analytical is certified by the State of California (# 2236). If you have any questions regarding procedures or results, please call me at 530-297-4800.

Sincerely,

Joel Kiff

KIFF Analytical LLC

Report Number : 46386

Date : 10/13/2005

Project Name : **SEYMOUR RESIDENCE**

Project Number : **AE001A**

Sample : **MW-4** Matrix : Water Lab Number : 46386-01

Sample Date :10/6/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	10/11/2005
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	10/11/2005
4-Bromofluorobenzene (Surr)	99.8		% Recovery	EPA 8260B	10/11/2005

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

KIFF Analytical LLC

Report Number : 46386

Date : 10/13/2005

Project Name : **SEYMOUR RESIDENCE**

Project Number : **AE001A**

Sample : **MW-3** Matrix : Water Lab Number : 46386-02

Sample Date :10/6/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	10/11/2005
Toluene - d8 (Surr)	99.8		% Recovery	EPA 8260B	10/11/2005
4-Bromofluorobenzene (Surr)	98.4		% Recovery	EPA 8260B	10/11/2005

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KIFF Analytical LLC

Report Number : 46386

Date : 10/13/2005

Project Name : **SEYMOUR RESIDENCE**

Project Number : **AE001A**

Sample : **MW-2** Matrix : Water Lab Number : 46386-03

Sample Date :10/6/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Total Xylenes	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	10/11/2005
Toluene - d8 (Surr)	100		% Recovery	EPA 8260B	10/11/2005
4-Bromofluorobenzene (Surr)	97.7		% Recovery	EPA 8260B	10/11/2005

Approved By: Joel Kiff

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KIFF Analytical LLC

Report Number : 46386
Date : 10/13/2005

Project Name : **SEYMOUR RESIDENCE**
Project Number : **AE001A**

Sample : **MW-1** Matrix : Water Lab Number : 46386-04
Sample Date :10/6/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Toluene	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Ethylbenzene	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Total Xylenes	**0.52**	0.50	ug/L	EPA 8260B	10/11/2005
Methyl-t-butyl ether (MTBE)	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Diisopropyl ether (DIPE)	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Ethyl-t-butyl ether (ETBE)	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Tert-amyl methyl ether (TAME)	**< 0.50**	0.50	ug/L	EPA 8260B	10/11/2005
Tert-Butanol	**< 5.0**	5.0	ug/L	EPA 8260B	10/11/2005
TPH as Gasoline	**< 50**	50	ug/L	EPA 8260B	10/11/2005
Toluene - d8 (Surr)	99.2		% Recovery	EPA 8260B	10/11/2005
4-Bromofluorobenzene (Surr)	100		% Recovery	EPA 8260B	10/11/2005

Approved By: Joel Kiff

2795 2nd St., Suite 300 Davis, CA 95616 530-297-4800

Report Number : 46386

Date : 10/13/2005

QC Report : Method Blank Data

Project Name : **SEYMOUR RESIDENCE**

Project Number : **AE001A**

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed
Benzene	< 0.50	0.50	ug/L	EPA 8260B	10/10/2005
Toluene	< 0.50	0.50	ug/L	EPA 8260B	10/10/2005
Ethylbenzene	< 0.50	0.50	ug/L	EPA 8260B	10/10/2005
Total Xylenes	< 0.50	0.50	ug/L	EPA 8260B	10/10/2005
Methyl-t-butyl ether (MTBE)	< 0.50	0.50	ug/L	EPA 8260B	10/10/2005
Diisopropyl ether (DIPE)	< 0.50	0.50	ug/L	EPA 8260B	10/10/2005
Ethyl-t-butyl ether (ETBE)	< 0.50	0.50	ug/L	EPA 8260B	10/10/2005
Tert-amyl methyl ether (TAME)	< 0.50	0.50	ug/L	EPA 8260B	10/10/2005
Tert-Butanol	< 5.0	5.0	ug/L	EPA 8260B	10/10/2005
TPH as Gasoline	< 50	50	ug/L	EPA 8260B	10/10/2005
Toluene - d8 (Surr)	97.0		%	EPA 8260B	10/10/2005
4-Bromofluorobenzene (Surr)	101		%	EPA 8260B	10/10/2005

Parameter	Measured Value	Method Reporting Limit	Units	Analysis Method	Date Analyzed

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 46386

QC Report : Matrix Spike/ Matrix Spike Duplicate

Date : 10/13/2005

Project Name : **SEYMOUR RESIDENCE**

Project Number : **AE001A**

Parameter	Spiked Sample	Sample Value	Spike Level	Spike Dup. Level	Spiked Sample Value	Duplicate Spiked Sample Value	Units	Analysis Method	Date Analyzed	Spiked Sample Percent Recov.	Duplicate Spiked Sample Percent Recov.	Relative Percent Diff.	Spiked Sample Percent Recov. Limit	Relative Percent Diff. Limit
Benzene	46331-03	3.4	39.9	39.9	44.2	44.0	ug/L	EPA 8260B	10/10/05	102	102	0.363	70-130	25
Toluene	46331-03	15	39.9	39.9	53.8	53.6	ug/L	EPA 8260B	10/10/05	96.6	96.1	0.502	70-130	25
Tert-Butanol	46331-03	<5.0	200	200	201	205	ug/L	EPA 8260B	10/10/05	101	102	1.67	70-130	25
Methyl-t-Butyl Ether	46331-03	<0.50	39.9	39.9	41.7	40.8	ug/L	EPA 8260B	10/10/05	104	102	2.15	70-130	25

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

2795 2nd St, Suite 300 Davis, CA 95616 530-297-4800

Report Number : 46386

Date : 10/13/2005

QC Report : Laboratory Control Sample (LCS)

Project Name : **SEYMOUR RESIDENCE**

Project Number : **AE001A**

Parameter	Spike Level	Units	Analysis Method	Date Analyzed	LCS Percent Recov.	LCS Percent Recov. Limit
Benzene	40.0	ug/L	EPA 8260B	10/10/05	102	70-130
Toluene	40.0	ug/L	EPA 8260B	10/10/05	98.4	70-130
Tert-Butanol	200	ug/L	EPA 8260B	10/10/05	105	70-130
Methyl-t-Butyl Ether	40.0	ug/L	EPA 8260B	10/10/05	107	70-130

Approved By: Joel Kiff

KIFF ANALYTICAL, LLC

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KIFF Analytical LLC

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Lab: 530.297.4800
Fax: 530.297.4802

SRG # / Lab No. 46386

Page 1 of 1

Chain-of-Custody Record and Analysis Request

Project Contact (Hardcopy or PDF To): Matthew Ryder-Smith

Company / Address: Clearwater Group 229 Tewkesbury Ave. #1 Richmond CA

Phone #: (510) 307-9943 Fax #: (510) 232-2823

Project #: AE001A P.O. #:

Project Name: Seymour Residence

Project Address: 111 Riverside Drive Rio Dell, CA

California EDF Report? ☒ Yes ☐ No

Sampling Company Log Code: CWGO

Global ID: T0602300031

EDF Deliverable To (Email Address): smolenda@clearwatergroup.com

Sampler Signature: Rodney Berry

Sample Designation	Sampling Date	Sampling Time	Container: 40 ml VOA	Container: Sleeve	Container: Poly	Container: Glass	Container: Tedlar	Preservative: HCl	Preservative: HNO_3	Preservative: None	Matrix: Water	Matrix: Soil	Matrix: Air	MTBE (EPA 8260B) per EPA 8021 level @ 5.0 ppb	MTBE (EPA 8260B) @ 0.5 ppb	BTEX (EPA 8260B)	TPH Gas (EPA 8260B)	5 Oxygenates (EPA 8260B)	7 Oxygenates (EPA 8260B)	Lead Scav.(1,2 DCA & 1,2 EDB-EPA 8260B)	Volatile Halocarbons (EPA 8260B)	Volatile Organics Full List (EPA 8260B)	Volatile Organics (EPA 524.2 Drinking Water)	TPH as Diesel (EPA 8015M)	TPH as Motor Oil (EPA 8015M)	Total Lead (EPA 6010)	W.E.T. Lead (STLC)	TAT	For Lab Use Only
MW-4	10/6/05	1830	4					X			X					X	X												1wk	01
3	"	1845	4					"			"					"	"												"	02
2	"	1900	3					"			"					"	"												"	03
1	"	1915	3*					"			"					"	"	X											"	04

Relinquished by:	Date	Time	Received by:
Rodney Berry	10/7/05	1700	
Relinquished by:	Date	Time	Received by:
Relinquished by:	Date	Time	Received by Laboratory:
	101005	1139	Jason N Kennedy Kiff Analytical

Remarks: 4X3 broken VOA

Bill to:

For Lab Use Only: Sample Receipt

Temp °C	Initials	Date	Time	Therm. ID #	Coolant Present
2.1°C	JNK	101005	1400	IR-4	(Yes) / No

TAT: ☐ 12 hr ☐ 24 hr ☐ 48 hr ☐ 72 hr ☒ 1 wk

Distribution: White - Lab; Pink - Originator
Rev: 051805